

What is claimed is:

CLAIMS

1. An apparatus, comprising:
5 an expander device capable of communicating with one or more initiator engines and one or more target storage devices using a plurality of communication protocols, said expander device further capable of creating at least one of a persistent reservation and a persistent affiliation between one or more target SATA storage devices and one or more said initiator engines.
- 10 2. The apparatus of claim 1, wherein:
said expander device capable of exchanging serial management protocol (SMP) commands with one or more of said initiator engines to define at least one of said persistent reservation and persistent affiliation between the one or more target SATA storage devices and said one or more initiator engines.
- 15 3. The apparatus of claim 2, wherein:
said SMP commands comprise one or more of vendor specific data fields and vendor specific commands, said vendor specific data fields comprise and said vendor specific commands comprise data indicative of at least one of said persistent reservation and persistent affiliation.
- 20 4. The apparatus of claim 1, wherein:
said expander device comprising one or more physical interfaces (PHYs) capable of communicating with said one or more target devices, said expander device further

capable of assigning at least one of said persistent reservation and persistent affiliation to one or more said PHYs.

5. The apparatus of claim 1, wherein:

at least one of said persistent reservation and persistent affiliation comprising one
5 or more commands to create an exclusive access between one of said initiator engines and one of said target SATA devices.

6. The apparatus of claim 1, wherein:

said expander device further capable of receiving a request for at least one of a
persistent reservation and a persistent affiliation from one or more said initiator engines,
10 said expander device further capable of determining at least one of if a persistent reservation conflict exists between the request for a persistent reservation and an existing reservation and if a persistent affiliation conflict exists between the request for a persistent affiliation and an existing affiliation.

7. The apparatus of claim 1, wherein:

15 said expander device further capable of storing at least one of said persistent reservation and persistent affiliation in memory.

8. The apparatus of claim 7, wherein:

said expander device further capable of retrieving at least one of said persistent reservation and persistent affiliation from said memory after a power cycle of said
20 expander device.

9. A system, comprising:

a circuit card comprising an integrated circuit capable of communicating in accordance with a plurality of different communication protocols, the circuit card being

capable of being coupled to a bus, and an expander device capable of communicating with said circuit card and one or more target storage devices using a plurality of communication protocols, said expander device further capable of creating at least one of a persistent reservation and a persistent affiliation between said circuit card and one or more target SATA storage devices.

10. The system of claim 9, wherein:

said expander device capable of exchanging serial management protocol (SMP) commands with said circuit card to define at least one of said persistent reservation and persistent affiliation between the one or more target SATA storage devices and said circuit card.

11. The system of claim 10, wherein:

said SMP commands comprise one or more of vendor specific data fields and vendor specific commands, said vendor specific data fields comprise and said vendor specific commands comprise data indicative of at least one of persistent reservation and persistent affiliation.

12. The system of claim 9, wherein:

said expander device comprising one or more physical interfaces (PHYs) capable of communicating with said one or more target devices, said circuit card further capable of assigning at least one of said persistent reservation and persistent affiliation to one or more said PHYs.

13. The system of claim 9, wherein:

at least one of said persistent reservation and persistent affiliation comprising one or more commands to create an exclusive access between said circuit card and one of said target SATA storage devices.

14. The system of claim 9, wherein:

5 said expander device further capable of receiving a request for at least one of a persistent reservation and a persistent affiliation from said circuit card, said expander device further capable of determining at least one of if a persistent reservation conflict exists between the request for a persistent reservation and an existing reservation and if a persistent affiliation conflict exists between the request for a persistent affiliation and an
10 existing affiliation.

15. The system of claim 9, wherein:

 said expander device further capable of storing at least one of said persistent reservation and persistent affiliation in memory.

16. The system of claim 15, wherein:

15 said expander device further capable of retrieving at least one of said persistent reservation and persistent affiliation from said memory after a power cycle of one or more of said expander device, said circuit card and said target SATA storage device.

17. An article comprising:

 a storage medium having stored thereon instructions that when executed by a
20 machine result in the following operations:

 creating at least one of a persistent reservation and persistent affiliation between one or more target SATA storage devices and one or more initiator engines.

18. The article of claim 17, further comprising the following operations:

generating serial management protocol (SMP) commands to define at least one of said persistent reservation and persistent affiliation between the one or more target SATA storage devices and said one or more initiator engines.

19. The article of claim 17, further comprising the following operations:

5 generating vendor specific data fields comprised in said SMP commands, said vendor specific data fields comprise data indicative of at least one of said persistent reservation and persistent affiliation.

20. The article of claim 17, further comprising the following operations:

generating vendor specific SMP commands, said vendor specific SMP commands
10 comprise data indicative of at least one of said persistent reservation and persistent affiliation.

21. The article of claim 17, further comprising the following operations:

receiving a request for at least one of a persistent reservation and a persistent affiliation from one or more said initiator engines, and determining at least one of if a
15 persistent reservation conflict exists between the request for a persistent reservation and an existing reservation and if a persistent affiliation conflict exists between the request for a persistent affiliation and an existing affiliation.

22. A method, comprising:

creating at least one of a persistent reservation and a persistent affiliation
20 between one or more target SATA storage devices and one or more initiator engines.

23. The method of claim 22, further comprising:

generating serial management protocol (SMP) commands to define at least one of said persistent reservation and persistent affiliation between the one or more target SATA storage devices and said one or more initiator engines.

24. The method of claim 22, further comprising:

5 generating vendor specific data fields comprised in said SMP commands, said vendor specific data fields comprise data indicative of at least one of persistent reservation and persistent affiliation.

25. The method of claim 22, further comprising:

generating vendor specific SMP commands, said vendor specific SMP commands
10 comprise data indicative of at least one of said persistent reservation and persistent affiliation.

26. The method of claim 22, further comprising:

receiving a request for at least one of said persistent reservation and persistent affiliation from one or more said initiator engines, and determining at least one of if a
15 persistent reservation conflict exists between the request for a persistent reservation and an existing reservation and if a persistent affiliation conflict exists between the request for a persistent affiliation and an existing affiliation.

27. The apparatus of claim 1, wherein:

at least one said expander device is further capable of communicating at least one
20 of persistent reservation and persistent affiliation information with another expander device.